

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

1. (Previously Presented) A medical device, comprising:
an inflatable balloon including a body portion, a first sleeve portion, a second sleeve portion, a first tapered portion located between the first sleeve portion and the body portion, and a second tapered portion located between the second sleeve portion and the body portion, the inflatable balloon having a first material and a discrete strip of a second material extending continuously from a first end of the discrete strip of the second material to a second end of the discrete strip of the second material, the discrete strip of the second material being encapsulated by the first material when the balloon is inflated, the discrete strip of the second material extending continuously along the body portion of the balloon into the first tapered portion and into the second tapered portion, the second material having a lower distensibility and a higher stiffness than the first material; and
a cutting element carried by the balloon centered over the discrete strip of the second material;
wherein portions of the inflatable balloon formed of the first material that are adjacent to the discrete strip form flaps between a furrow when the balloon is deflated such that the cutting element is located in the furrow between flaps of the inflatable balloon.
2. (Original) The device of claim 1, wherein the materials have different distensibility.
3. (Original) The device of claim 1, wherein the materials have different distensibility along the longitudinal direction of the balloon.
4. (Previously Presented) The device of claim 1, wherein the discrete strip of the second material extends along the longitudinal direction of the balloon.
5. (Cancelled)

6. (Original) The device of claim 1, wherein the balloon is formed with a portion having a distensibility less than about 1 mm along the length of the balloon over a predetermined pressure range.
7. (Original) The device of claim 1, wherein the balloon is formed with a portion having a distensibility less than about 0.8 mm along the length of the balloon over a predetermined pressure range.
8. (Original) The device of claim 1, wherein the balloon is formed with a portion having a distensibility less than about 0.5 mm along the length of the balloon over a predetermined pressure range.
9. (Original) The device of claim 1, wherein the balloon is formed with a portion having a distensibility less than about 0.3 mm along the length of the balloon over a predetermined pressure range.
10. (Original) The device of claim 1, wherein the balloon is co-extruded.
11. (Original) The device of claim 1, wherein the balloon is formed with a portion having a distensibility less than about 10% along the length of the balloon over a predetermined pressure range.
12. (Original) The device of claim 1, wherein the balloon is formed with a portion having a distensibility less than about 7% along the length of the balloon over a predetermined pressure range.
13. (Original) The device of claim 1, wherein the balloon is formed with a portion having a distensibility less than about 5% along the length of the balloon over a predetermined pressure range.

14. (Previously Presented) A medical device, comprising:

a catheter;

an inflatable balloon carried by the catheter, the balloon including a body portion, a first sleeve portion, a second sleeve portion, a first tapered portion located between the first sleeve portion and the body portion, and a second tapered portion located between the second sleeve portion and the body portion, the balloon formed having a first material and a discrete striped portion encapsulated by the first material when the balloon is inflated, the discrete striped portion extending continuously along the body portion of the balloon, at least a portion of the first tapered portion, and at least a portion of the second tapered portion, the discrete striped portion having a lower distensibility and a higher stiffness than the first material of the balloon; and

a cutting element carried by the balloon centered over the discrete striped portion;

wherein portions of the inflatable balloon formed of the first material that are adjacent to the discrete striped portion form flaps between a furrow when the balloon is deflated such that the cutting element is located in the furrow between flaps of the inflatable balloon.

15. (Previously Presented) The device of claim 14, wherein the balloon is formed having a plurality of striped portions.

16. (Previously Presented) The device of claim 15, wherein the number of striped portions is greater than the number of cutting elements carried by the balloon.

17. (Previously Presented) The device of claim 15, wherein the striped portions are equally spaced around the circumference of the balloon.

18. (Previously Presented) The device of claim 14, wherein the striped portion extends parallel to the longitudinal axis of the balloon.

19. (Withdrawn) The medical device of claim 14, wherein the striped portion extends helically about the longitudinal axis of the balloon.
20. (Original) The device of claim 14, wherein the balloon is formed by co-extrusion.
21. (Original) The device of claim 14, wherein the balloon is a multi-layered balloon.
22. (Original) The device of claim 14, wherein the striped portion extends continuously along the length of the balloon.
23. (Original) The device of claim 14, wherein the striped portion has a distensibility less than about 1 mm along the length of the balloon over a predetermined pressure range.
24. (Original) The device of claim 14, wherein the striped portion has a distensibility less than about 0.8 mm along the length of the balloon over a predetermined pressure range.
25. (Original) The device of claim 14, wherein the striped portion has a distensibility less than about 0.5 mm along the length of the balloon over a predetermined pressure range.
26. (Original) The device of claim 14, wherein the striped portion has a distensibility less than about 0.3 mm along the length of the balloon over a predetermined pressure range.
27. (Original) The device of claim 14, wherein the striped portion has a distensibility less than about 10% along the length of the balloon over a predetermined pressure range.
28. (Original) The device of claim 14, wherein the striped portion has a distensibility less than about 7% along the length of the balloon over a predetermined pressure range.

29. (Original) The device of claim 14, wherein the striped portion has a distensibility less than about 5% along the length of the balloon over a predetermined pressure range.

30. (Original) The device of claim 14, wherein the striped portion comprises a liquid crystal polymer.

31. (Original) The device of claim 14, wherein the striped portion comprises a colorant.

32. (Original) The device of claim 14, wherein the balloon comprises an inorganic additive.

33. (Original) The device of claim 14, wherein the striped portion extends over a portion of the length of the balloon.

34. (Original) The device of claim 14, wherein the striped portion extends over substantially the entire length of the balloon.

35-42. (Cancelled)

43. (Currently Amended) A medical device, formed by a method comprising:

forming a tube having a discrete striped portion encapsulated by a first material, the discrete striped portion extending continuously from a first end of the tube to a second end of the tube, the discrete striped portion having a lower distensibility and a higher stiffness than the first material of the tube;

forming an inflatable balloon from the tube, the balloon including a body portion, a first sleeve portion proximate a first end of the inflatable balloon, a second sleeve portion proximate a second end of the inflatable balloon, a first tapered portion located between the first sleeve portion and the body portion, and a second tapered portion located between the second sleeve portion and the body portion, the discrete striped portion being encapsulated by

the first material when the balloon is inflated, and the discrete striped portion extending continuously ~~along the body portion of the balloon into the first tapered portion and into the second tapered portion~~ from the first end of the inflatable balloon to the second end of the inflatable balloon such that the discrete striped portion extends through each of the first sleeve portion, the first tapered portion, the body portion, the second tapered portion, and the second sleeve portion;

attaching a cutting element to the balloon centered over the discrete striped portion;
and

folding the balloon such that the cutting element is located in a furrow of the inflatable balloon between flaps of the inflatable balloon formed of the first material which are adjacent to the discrete striped portion.

44-72. (Cancelled)

73. (Previously Presented) The device of claim 1, wherein the cutting element is spaced from the discrete strip of the medical material.

74. (Previously Presented) The device of claim 14, wherein the cutting element is spaced from the striped portion.

75. (Previously Presented) The device of claim 43, wherein the attached cutting element is spaced from the striped portion.

76. (Previously Presented) The medical device of claim 1, wherein the second material comprises a polymer.

77. (Previously Presented) The device of claim 14, wherein the striped portion comprises a polymer.

78. (Previously Presented) The device of claim 43, wherein the striped portion

comprises a polymer.

79-81. (Cancelled)

82. (Previously Presented) The device of claim 1, wherein the second material comprises a colorant.

83. (Previously Presented) The device of claim 14, wherein the striped portion comprises a colorant.

84. (Previously Presented) The device of claim 43, wherein the striped portion comprises a colorant.

85. (Previously Presented) The device of claim 1, wherein the first material comprises a compatibilizing material.

86. (Previously Presented) The device of claim 14, wherein the first material comprises a compatibilizing material.

87. (Previously Presented) The device of claim 43, wherein the first material comprises a compatibilizing material.

88. (Previously Presented) The device of claim 1, further comprising a discrete strip of a third material encapsulated by the first material when the balloon is inflated, the third material being a different material when the balloon is inflated, the third material being a different material than the first and second materials.

89. (Previously Presented) The device of claim 88, wherein no cutting element is centered over the discrete strip of the third material.

90. (Previously Presented) The device of claim 14, further comprising a second discrete striped portion encapsulated by the first material when the balloon is inflated, the second discrete striped portion being formed of a different material than the first material and the discrete striped portion.

91. (Previously Presented) The device of claim 90, wherein no cutting element is centered over the second discrete striped portion.

92. (Previously Presented) The device of claim 43, further comprising a second discrete striped portion encapsulated by the first material when the balloon is inflated, the second discrete striped portion being formed of a different material than the first material and the discrete striped portion.

93. (Previously Presented) The device of claim 92, wherein no cutting element is centered over the second discrete striped portion.

94. (Currently Amended) The device of claim 1, wherein the discrete strip of the second material extends continuously from a first end of the balloon proximate the first sleeve portion of the balloon to a second end of the balloon proximate the second sleeve portion of the balloon such that the discrete strip of the second material extends through each of the first sleeve portion, the first tapered portion, the body portion, the second tapered portion, and the second sleeve portion.

95. (Currently Amended) The device of claim 14, wherein the discrete striped portion extends continuously from a first end of the balloon proximate the first sleeve portion of the balloon to a second end of the balloon proximate the second sleeve portion of the balloon such that the discrete striped portion extends through each of the first sleeve portion, the first tapered portion, the body portion, the second tapered portion, and the second sleeve portion.

96. (Cancelled)